

A NOTE ON MARINE FUNGI FROM MANGALORE COAST

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ABSTRACT

Sand and foam samples from eight sampling stations along Mangalore coast were studied for the presence of marine fungi. Five ascomycetes and four deuteromycetes were encountered. Of them *Arenariomyces trifurcatus* Hoehn and *Clavariopsis bulbosa* Anastasiou were more frequent.

Key-words : Marine fungi, Mangalore coast

Exploration of marine fungi in tropics is not adequate compared to temperate regions. The information on marine fungi in the Indian Ocean is scanty (Kohlmeyer, 1984). However, in the recent years some work has been carried out along the west coast of Maharashtra (Borse *et al.*, 1988).

Kohlmeyer and Kohlmeyer (1979) referred to the group of fungi inhabiting sand and growing in water-filled spaces between sand grains as arenicolous fungi. They degrade organic matter of plant origin such as cellulose, alginates and laminarin (Chesters and Bull, 1963; Koch, 1974). These fungi reproduce by releasing spores which are later carried by the waters and get trapped in foam before settling on sand surface. According to Kohlmeyer (1966), the type of fungal spores in foam and sand indicates the mycota of a particular region. The present study deals with the occurrence of arenicolous fungi along Mangalore coast on the west coast.

Eight sampling stations viz., Uchila, Someshwara, Bengre, Panamboor, Surathkal, Mulki, Malpe and St. Mary's Island along the Mangalore coast (Fig. 1) were selected for the study. The survey was conducted during September 1988 to May 1989. Sand samples of 15-20 cm depth were collected from each of the three sites of sampling station across the beach. About 25 g sand sample was mixed with 50 ml sterile seawater and allowed to settle. Latter water was decanted into a vessel and fixed with formalin (45%) to yield a 5% solution. Freshly deposited and stable foam on sand were scraped, suspended in sterile seawater and fixed with formalin as referred above (Kohlmeyer and Kohlmeyer, 1979). The fixed samples were scanned under a low power (x125) microscope for the presence of fungal spores. A total of 72 samples, each of sand and foam were analysed from eight sampling stations. The fungi were identified on the basis of their characteristic conidial morphology (Kohlmeyer, 1984; Kohlmeyer and Kohlmeyer, 1979).

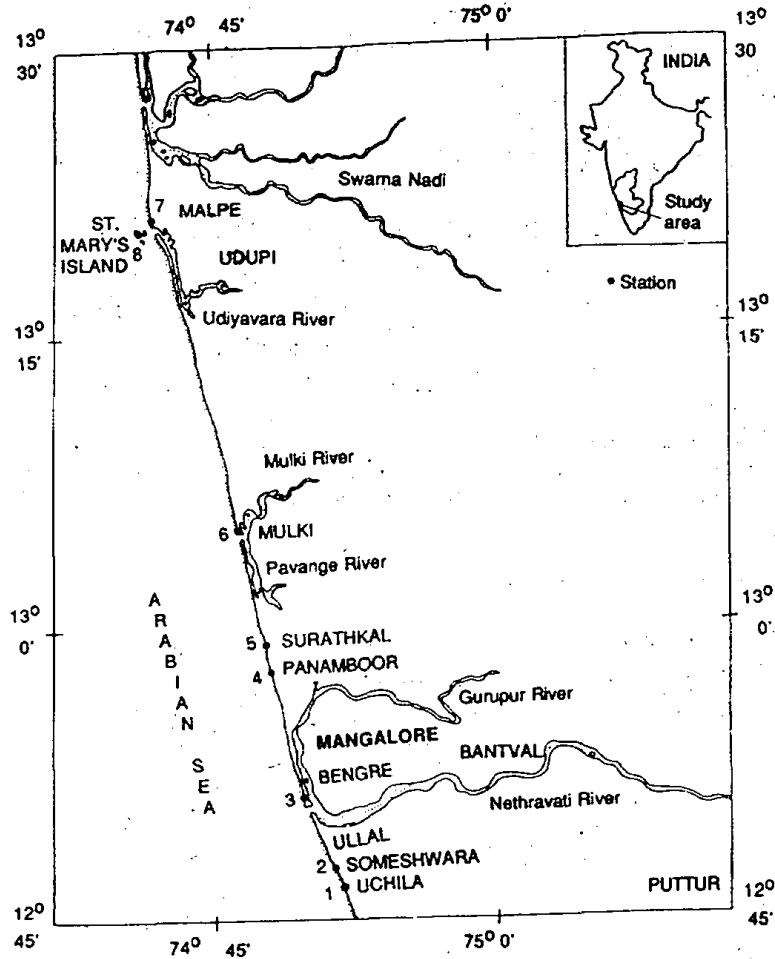


Fig. 1. Map showing sampling stations

Table I - Marine fungi in sand and foam samples of Mangalore coast

Fungi	No. of collections		% frequency**
	Sand*	Foam*	
Ascomycetes			
<i>Arenariomyces trifurcatus</i>	31	36	46.5
<i>Corollospora maritima</i>	18	16	23.6
<i>C. mulchella</i>	19	13	22.2
<i>C. lacera</i>	27	4	21.5
<i>C. intermedia</i>	3	14	11.8
Deuteromycetes			
<i>Clavariopsis bulbosa</i>	3	33	24.3
<i>Zalerion maritimum</i>	7	18	17.4
<i>Z. varium</i>	2	10	8.3
<i>Monodictys pelagica</i>	1	4	3.5

*Out of 72 samples each of sand and foam, **Out of a total of 144 samples

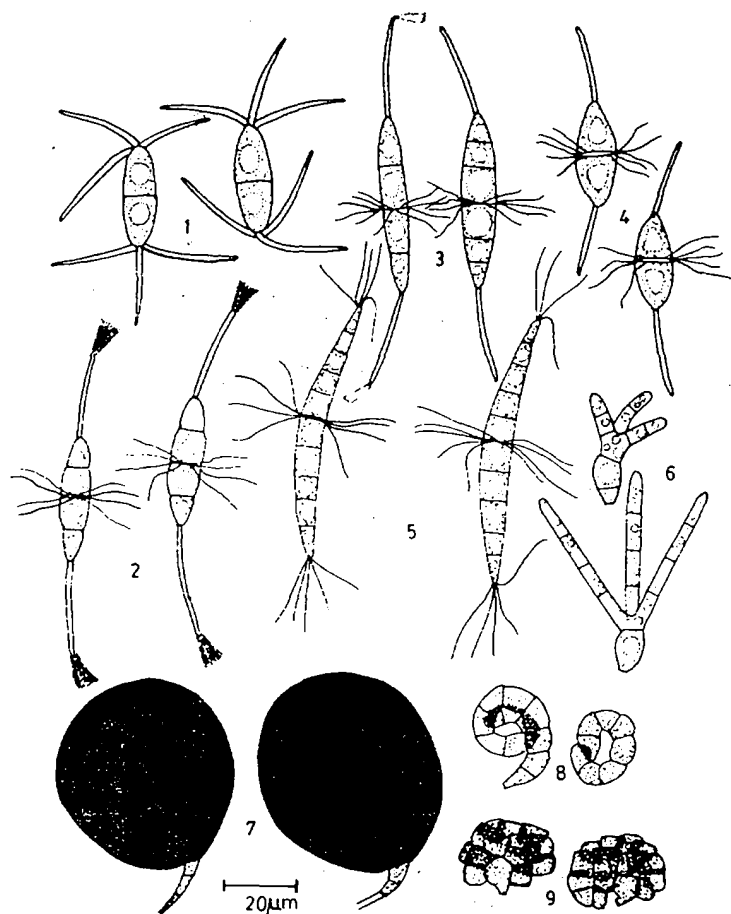


Fig. 2. Typical spores of 1, *Arenariomyces trifurcatus*; 2, *Corollospora intermedia*; 3, *C. lacera*; 4, *C. maritima*; 5, *C. pulchella*; 6, *Clavariopsis bulbosa*; 7, *Monodictys pelagica*; 8, *Zalerion maritimum*; 9, *Z. varium*

The fungal flora and their frequency of occurrence is given in Table I. Typical spores of nine species from unfixed samples are represented in Fig. 2. Out of 144 samples scanned, five ascomycetes and four deuteromycetes were recorded. *Arenariomyces trifurcatus* was most frequent and *Corollospora intermedia* Schmidt was less frequent among ascomycetes, whereas *Clavariopsis bulbosa* was most common and *Monodictys pelagica* (Johnson) Jones was rare among deuteromycetes.

The frequency of occurrence of arenicolous fungi differs in other tropical locations. In Seychelles *Corollospora maritima* Werdermann was most common, whereas *Arenariomyces trifurcatus* was less common and *Corollospora pulchella* Kohlm., Schmidt and Nair was rare (Hyde, 1986). In Brunei *Corollospora pulchella* was most common,

Corollospora maritima and *C. lacera* (Linder) Kohlm were less common and *Arenariomyces trifurcatus* was rare (Hyde, 1989). Hyde (1989) predicts that the quality of sand in Seychelles and Brunci might have some influence on their distribution. In the present study *Arenariomyces trifurcatus* was most frequent, whereas the frequency of *Corollospora lacera*, *C. maritima*, and *C. pulchella* was ranging between 21.5 to 23.6%. The latter three species were more common on sand samples than in foam samples. The deuteromycetes viz., *Clavariopsis bulbosa*, *Monodictys pelagica*, *Zalerion maritimum* (Linder) Anastasiou and *Z. varium* Anastasiou were more frequent in foam than in sand samples. It is an interesting fact that *Corollospora pulchella* and its anamorph state *Clavariopsis bulbosa* were encountered in the same ecological niche. However, the existence of their propagules drastically vary among the sand foam samples.

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